

REMARKS

Applicant respectfully request consideration of this application. The following arguments are provided to impart precision to the claims, by more particularly pointing out the invention, rather than to avoid prior art.

Drawings Objections

The drawings have been objected to because the sectional views are not properly crosshatched. Replacement **Figure 6** and an additional red ink markup version is enclosed.

Office Action Rejections Summary

Claims 1 – 5, 9, 10, 12 – 14, 19, 22, 23, and 26 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 4,894,030 to Chavaroux (hereinafter “Chavaroux”). Claims 1, 2, 6, 15, and 17 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 5,547,395 to Delamotte (hereinafter “Delamotte”). Claims 20, 21, 24, and 25 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Chavaroux.

Status of Claims

Claims 1, 19, and 23 have been amended to define existing claims limitations more properly. The amended claims are supported by the specification and no new matter has been added. No new claims have been added. Claims 27 – 42 have been canceled. Claims 7, 8, 11, 16, and 18 have been objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 7, 8, 11, 16, and 18 have each been rewritten from their original dependent forms to independent claims that include all the

limitations of their base claim. As such, claims 7, 8, 11, 16, and 18 are in condition for allowance. Therefore, the following comments are directed toward the rejected claims.

Rejections Under 35 U.S.C. § 102(b)

Claims 1 – 5, 9, 10, 12 – 14, 19, 22, 23, and 26 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Chavaroux. Applicant respectfully submits that claims 1 – 5, 9, 10, 12 – 14, 19, 22, 23, and 26 are not anticipated by Chavaroux.

Amended independent claim 1 recites:

A retainer for printed circuit board assemblies, comprising:
a heat-shrinkable member disposed within the printed circuit board assemblies, said heat-shrinkable member being configured to receive a coupling member extending from a component; and
a retaining member, said retaining member being coupled with said heat-shrinkable member. (emphasis added)

Amended independent claim 19 recites:

A retainer for printed circuit board assemblies, comprising:
at least one heat-shrinkable member disposed within the printed circuit board assemblies, said at least one heat-shrinkable member each being configured to receive a coupling member extending from a component assembled on a printed circuit board via an opening formed in said printed circuit board; and
a retaining member, said retaining member being coupled with each of said plurality of heat-shrinkable members. (emphasis added)

Chavaroux discloses a heat shrinkable solder connector for terminating a wire to a printed circuit board which comprises a heat shrinkable sleeve 2, solder ring 3 and solid tinned copper lead 5 which is bent into a right angle for insertion into a pcb connection hold. The end of the lead 5 in the region of the solder ring 3 is profiled in order to increase its pull-out resistance. (Chavaroux, col. 3, lines 21 – 28, and FIG. 2). As such, Chavaroux makes it clear that the heat shrinkable sleeve is external to the printed circuit board. Nothing in Chavaroux discloses a heat-shrinkable member disposed within the printed circuit board.

In contrast, amended independent claim 1 includes the limitation of “a heat-shrinkable member disposed within the printed circuit board assemblies” and claim 19 includes the limitation of “at least one heat-shrinkable member disposed within the printed circuit board assemblies.” As such, applicant respectfully submits that claims 1 and 19 are not anticipated by Chavaroux under 35 U.S.C. §102(b) and request removal of the rejection.

Claims 2 – 5, 9, 10, and 12 – 14 depend either directly or indirectly from independent claim 1. Claim 22 depends directly from independent claim 19. As such, all these dependent claims include the limitation of “heat-shrinkable member disposed within the printed circuit board assemblies.” Accordingly, claims 2 – 5, 9, 10, 12 – 14, and 22 are also not anticipated by Chavaroux under 35 U.S.C. §102(b).

Amended independent claim 23 recites:

A retainer for printed circuit board assemblies, comprising:
a retaining member, said retaining member having at least one coupling member, said at least one coupling member each extending from said retaining member; and
a heat-shrinkable member, said heat-shrinkable member being coupled with a component assembled on a printed circuit board and being configured ***to receive at least one of said at least one coupling member within an opening formed in said printed circuit board.***

(emphasis added)

Chavaroux discloses a heat shrinkable solder connector for terminating a wire to a printed circuit board which comprises a heat shrinkable sleeve 2, solder ring 3 and solid tinned copper lead 5 which is bent into a right angle for insertion into a pcb connection hold. The end of the lead 5 in the region of the solder ring 3 is profiled in order to increase its pull-out resistance. (Chavaroux, col. 3, lines 21 – 28, and FIG. 2). As such, Chavaroux makes it clear that the heat shrinkable sleeve is external to the printed circuit board. Nothing in Chavaroux discloses a heat-shrinkable member configured to receive a wire within an opening formed in the printed circuit board.

In contrast, amended independent claim 23 includes the limitation of “to receive at least one of said at least one coupling member within an opening formed in said printed circuit board.” As such, applicant respectfully submits that claim 23 is not anticipated by Chavaroux under 35 U.S.C. §102(b) and request removal of the rejection. Claim 26 depends from independent claim 23. Accordingly, claim 26 is also not anticipated by Chavaroux under 35 U.S.C. §102(b).

Claims 1, 2, 6, 15, and 17 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Delamotte. Applicant respectfully submits that claims 1, 2, 6, 15, and 17 are not anticipated by Delamotte. As discussed above, independent claim 1 includes the limitation of “a heat-shrinkable member disposed within the printed circuit board assemblies.”

Delamotte discloses a connection of a coaxial cable to a printed circuit board 18 in which the cable screen is terminated as above but the central conductor 12 and dielectric 11 are bent at 90 degrees to the rest of the cable in order to be introduced into a through hole or via 19 of the board. The cable screen is connected to a conductive track 20 on the board via the ferrule 4 and a ferrule holding fixture 21 shown schematically while the central conductor 12 of the cable is soldered to a conductive lining 22 of the through hole 19. (Delamotte, col. 5, lines 17 – 27, and FIG. 4). As such, nothing in Delamotte discloses a heat shrinkable sleeve external to the printed circuit board.

In contrast, amended independent claim 1 includes the limitation of “a heat-shrinkable member disposed within the printed circuit board assemblies.” As such, applicant respectfully submits that claim 1 is not anticipated by Delamotte under 35 U.S.C. §102(b) and request removal of the rejection.

Claims 2, 6, 15, and 17 depend either directly or indirectly from independent claim 1. As such, all these dependent claims include the limitation of “a heat-shrinkable member

disposed within the printed circuit board assemblies.” Accordingly, claims 2, 6, 15, and 17 are also not anticipated by Chavaroux under 35 U.S.C. §102(b).

Rejections Under 35 U.S.C. § 103(a)

Claims 20, 21, 24, and 25 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Chavaroux. Claims 20 and 21 depend from independent claim 19 and thus includes the limitation of “at least one heat-shrinkable member disposed within the printed circuit board assemblies.” Claims 24 and 25 depend from independent claim 23 and thus include the limitation of “to receive at least one of said at least one coupling member within an opening formed in said printed circuit board.”

For reasons similar to those discussed above with respect to claim 19, nothing in Chavaroux teaches the limitation of “at least one heat-shrinkable member disposed within the printed circuit board assemblies.” For reasons similar to those discussed above with respect to claim 23, nothing in Chavaroux teaches the limitation of “to receive at least one of said at least one coupling member within an opening formed in said printed circuit board.” As such, applicants respectfully submit that claims 20, 21, 24, and 25 are patentable over Chavaroux under 35 U.S.C. §103(a) and request removal of the rejection.

Conclusion

In conclusion, applicant respectfully submits that in view of the arguments and amendments set forth herein, the applicable objections and rejections have been overcome.


If the Examiner believes a telephone interview would expedite the prosecution of this application, the Examiner is invited to contact Suk Lee at (408) 720-8300.

If there are any additional charges, please charge our Deposit Account No. 02-2666.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Dated: October 29, 2004 .



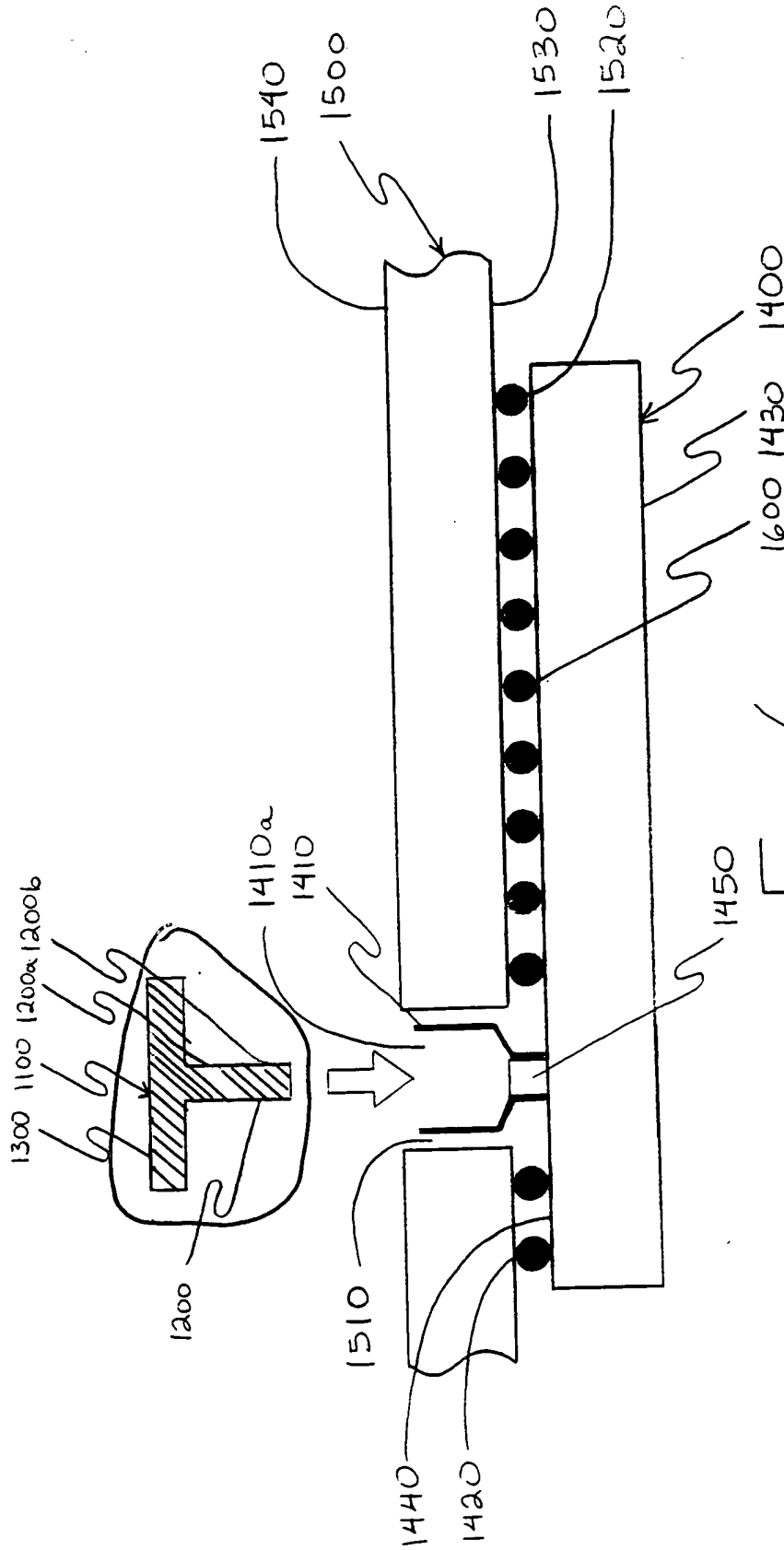
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IN THE DRAWINGS

The attached drawing sheet includes a change to **Figure 6**. The sheet which includes **Figure 6** replaces the original sheet including **Figure 6**. The figure has been amended to include crosshatching of sectional views. It is respectfully submitted that the proposed amendments to the drawings do not add new matter.

Attachment: Replacement Sheet
Annotated Sheet Showing Changes in red ink



Title: Heat-Shrinkable Retainer for
PCB Double-Sided Assembly

Inventors: Fartash et al.

Matter No. 267/180

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